

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

30. (Previously Presented) Apparatus for connecting a fitting to a conduit section comprising:

a rigid insert having a generally cylindrical body with a proximal end and a distal end and defining a central lumen, said central lumen extending between said proximal and distal ends, said proximal end being adapted to be received in the conduit section while said distal end projects from the conduit; and

a rigid, one piece retainer, said retainer being generally ring shaped and having an opening sufficiently large to receive the insert, said retainer having a sidewall defining a first end facing the distal end of the insert, a second end facing the proximal end of the insert, and an inner surface defining an opening extending from the first end to the second end, said sidewall having a varying thickness such that a diameter of the opening is generally constant from said second end to a position intermediate said first and second ends and then gradually increases from the position intermediate the first and second ends toward the first end.

31. (Previously Presented) The apparatus of claim 30 wherein the insert body defines a circumferential groove.

32. (Previously Presented) The apparatus of claim 30, further comprising an annular seal received in the circumferential groove.

33. (Previously Presented) The apparatus of claim 30 wherein the proximal end of the insert is chamfered.

34. (Previously Presented) The apparatus of claim 30 wherein the insert and the retainer are formed from a common material.

35. (Currently Amended) Apparatus for connecting a fitting to a conduit section comprising:

a rigid insert defining a central lumen; and

a rigid, one piece collar having an opening sufficiently large to receive the insert, the one-piece collar defining a first end, a second end and an opening extending from the first end to the second end, the opening flaring from a position intermediate the first and second ends toward the first end, wherein the insert includes a staple for receiving the a strap.

36. (Currently Amended) The apparatus of claim ~~33~~35, wherein the rigid insert is adapted to connect a fitting to a conduit section, an outer surface of the rigid insert body comprising: a first raised detent; a second raised detent axially spaced from the first raised detent; and a third raised detent between the first and second raised detents, the third raised detent being smaller than the first and second raised

detents.

37. (Previously Presented) The apparatus of claim 36, wherein the insert body is generally cylindrical in shape and wherein the first, second and third raised detents are annular, raised detents.

38. (Previously Presented) The apparatus of claim 37, wherein the detents are annular barbs.

39. (Previously Presented) The apparatus of claim 36, wherein the first and second raised detents are substantially identical to one another.

40. (Previously Presented) The apparatus of claim 36, wherein the insert further comprises a fourth raised detent disposed between the first and second raised detents, wherein the third and fourth raised detents are substantially identical to one another.

41. (Previously Presented) The apparatus of claim 36, wherein the insert further comprises a fourth raised detent and a fifth raised detent; the fifth raised detent being axially spaced from the first and second raised detents; the fourth raised detent being between the fifth raised detent and one of the first and second raised detents; and wherein the fourth raised detent is smaller than the each of the first, second and fifth raised detents.

42. (Previously Presented) The apparatus of claim 36, wherein the insert further comprises a fourth raised detent and a fifth raised detent; the fifth raised detent being axially spaced from the first and second raised detents; the fourth raised detent being between the fifth raised detent and one of the first and second raised detents; the first, second and fifth raised detents being substantially identical to one another ; and the fourth raised detent being smaller than each of the first, second and fifth raised detents.

43. (Previously Presented) The apparatus of claim 36, wherein the insert further comprises a fourth raised detent and a fifth raised detent; the fifth raised detent being axially spaced from the first and second raised detents; the fourth raised detent being between the fifth raised detent and one of the first and second raised detents; and wherein the third and fourth raised detents are substantially identical to one another.

Claims 44-50 (Canceled)

51. (Currently Amended) A coupling apparatus adapted to fluidly couple a first conduit section to a second conduit section, said first conduit section defining a first conduit section lumen and said second conduit section defining a second conduit section lumen, the coupling apparatus comprising:

a male fitting comprising a first rigid insert and a shell, said first rigid insert having a cylindrical body with a proximal end and a distal end and defining a central lumen, said shell having a proximal end and a distal end, wherein the shell proximal

end is affixed to the distal end of said first rigid insert so as to extend integrally therefrom, said first rigid insert being adapted to extend into said first conduit section lumen such that said shell projects from said first conduit section;

a female fitting comprising a second rigid insert and a socket, said second rigid insert having a cylindrical body with a proximal end and a distal end and defining a central lumen, said socket having a proximal end and a distal end, said socket proximal end being affixed to the second rigid insert distal end so as to extend integrally therefrom, said second rigid insert being adapted to extend into said second conduit section lumen such that said socket projects from said first conduit section, said socket being disposed around an exterior surface of said shell so as to receive said shell therein; and,

a clamping member disposed around said shell and engaging said socket and serving to sealingly and clampingly secure the male fitting to the female fitting and thereby fluidly couple the first conduit section to the second conduit section; and,

first and second retainers, said first retainer being disposed around said first conduit section such that a portion of said first conduit section is clampingly received between said first rigid insert and said first retainer, said second collar member being disposed around said second conduit section such that a portion of said second conduit section is clampingly received between said second rigid insert and said second retainer.

Claim 52 (Cancelled)

53. (Previously Presented) The coupling apparatus of claim 51 wherein each

body of the first and second inserts includes first and second axially spaced apart annular, raised detents.

54. (Previously Presented) The coupling apparatus of claim 53, wherein the first and second axially-spaced, annular raised detents are annular barbs.

55. (Previously Presented) The coupling apparatus of claim 54 wherein the annular barbs are substantially identical to one another.

56. (Previously Presented) The coupling apparatus of claim 54, wherein each body of the first and second inserts further includes a third raised detent between the first and second detents, the third detent being smaller than the first and second detents.

57. (Previously Presented) The coupling apparatus of claim 54, wherein each body of the first and second inserts further includes third and fourth raised detents ; the third raised detent being axially spaced from the first and second detents; the fourth raised detent being between the third raised detent and one of the first and second detents; and the fourth raised detent being smaller than any of the first, second and third detents.

58. (Previously Presented) The coupling apparatus of claim 54, wherein each body of the first and second inserts further includes third and fourth raised detents; the third raised detent being axially spaced from the first and second

detents; the fourth raised detent being between the third raised detent and one of the first and second detents; the first, second, and third detents are substantially identical to one another; and the fourth raised detent is smaller than any of the first, second, and third detents.

59. (Previously Presented) The coupling apparatus of claim 54, wherein each of the inserts defines a circumferential groove disposed between the first and second detents, and wherein a seal is disposed in said circumferential groove.

60. (Canceled)

61. (Previously Presented) The coupling apparatus of claim 51 wherein the socket flares from a position intermediate the proximal and distal ends and thereby defines an annular, inwardly facing groove that receives a seal.

62. (Canceled)

63. (Currently Amended) ~~The coupling apparatus of claim 51, further comprising~~ A coupling apparatus adapted to fluidly couple a first conduit section to a second conduit section, said first conduit section defining a first conduit section lumen and said second conduit section defining a second conduit section lumen, the coupling apparatus comprising:

a male fitting comprising a first rigid insert and a shell, said first rigid insert having a cylindrical body with a proximal end and a distal end and defining a central

lumen, said shell having a proximal end and a distal end, wherein the shell proximal end is affixed to the distal end of said first rigid insert so as to extend integrally therefrom, said first rigid insert being adapted to extend into said first conduit section lumen such that said shell projects from said first conduit section;

a female fitting comprising a second rigid insert and a socket, said second rigid insert having a cylindrical body with a proximal end and a distal end and defining a central lumen, said socket having a proximal end and a distal end, said socket proximal end being affixed to the second rigid insert distal end so as to extend integrally therefrom, said second rigid insert being adapted to extend into said second conduit section lumen such that said socket projects from said first conduit section, said socket being disposed around an exterior surface of said shell so as to receive said shell therein;

a clamping member disposed around said shell and engaging said socket and serving to sealingly and clampingly secure the male fitting to the female fitting and thereby fluidly couple the first conduit section to the second conduit section; and,

first and second straps defining strap end portions, wherein the first insert includes a first staple and the second insert includes a second staple; and wherein the first strap passes through the first staple and is received between the first collar and the first conduit section and the second strap passes through the second staple and is received between the second collar and the second conduit section.

64. (Previously Presented) A fitting in combination with a conduit, comprising:

a conduit section defining a conduit section lumen;

a fitting, comprising:

a rigid insert defining a central lumen, the rigid insert extending into the conduit section lumen;

a coupling portion affixed to the insert and projecting from said conduit section lumen, said coupling portion being adapted to receive a mating coupling portion extending from an associated conduit section; and

a rigid, one piece retainer, said retainer being generally ring shaped and having an opening sufficiently large to receive the insert, said retainer having a sidewall defining a first end facing the distal end of the insert, a second end facing the proximal end of the insert, and an inner surface defining an opening extending from the first end to the second end, said sidewall having a varying thickness such that a diameter of the opening is generally constant from said second to a position intermediate said first and second ends and then gradually increases from the position intermediate the first and second ends toward the first end.

65. (Previously Presented) The combination of claim 64, further comprising a seal disposed between the insert and the conduit section.

66. (Previously Presented) The combination of claim 64, wherein the rigid insert has a generally cylindrical body, said body defining a circumferential groove disposed between two axially-spaced, raised detents, and wherein an annular seal is received in the circumferential groove.

67. (Previously Presented) The combination of claim 66, wherein the

retainer is aligned with the seal and cooperates with the insert so as to urge the seal into sealing engagement with the conduit section.

68. (Previously Presented) Apparatus comprising:

a conduit section defining a conduit section lumen;

a fitting;

a rigid insert defining a central lumen, the rigid insert being affixed to the fitting and extending into the conduit section lumen;

a rigid, one-piece retainer positioned over the conduit section, the one-piece retainer defining a first end, a second end and an opening extending from the first end to the second end, wherein the opening flares from a position intermediate the first and second ends toward the first end, and the first end faces the fitting; and, a strap defining strap end portions, wherein the insert includes a staple, the strap passes through the staple, and one of the strap end portions engages the one-piece collarretainer.

Claims 69 – 71 (Cancelled)

72. (Previously Presented) Apparatus comprising:

a conduit section defining a conduit section lumen;

a fitting;

a rigid insert defining a central lumen, a first raised detent, a second raised detent axially spaced from the first raised detent and a third raised detent axially spaced from the first and second raised detents, the rigid insert being affixed to the

fitting and extending into the conduit section lumen;

a first retainer positioned over the conduit section in substantial alignment between the first and second raised detents; and

a second retainer positioned over the conduit section in substantial alignment between the second and third raised detents;

wherein the first retainer has a first end, a second end and an opening extending from the first end to the second end, the opening flaring from a position intermediate the first and second ends toward the first end; and the first end of the first retainer faces the fitting.

73. (Canceled)

74. (Previously Presented) The apparatus of claim 72 wherein the insert includes a generally cylindrical body; and the first and second raised detents are annular, raised detents.

75. (Previously Presented) The apparatus of claim 72 wherein the insert includes a generally cylindrical body; and the first and second raised detents are annular barbs.

76. (Previously Presented) The apparatus of claim 72 including a seal mounted on the insert between the first and second raised detents.

77. (Previously Presented) The apparatus of claim 72 including an annular

seal, wherein the insert includes a generally cylindrical body and an annular groove between the first and second raised detents; and the annular seal is seated in the annular groove.

78. (Previously Presented) The apparatus of claim 72 wherein the insert defines a fourth raised detent between the first and second raised detents, the fourth raised detent being smaller than the first and second raised detents.

79. (Previously Presented) The apparatus of claim 72 wherein the insert defines a fourth raised detent and a fifth raised detent, the fourth and fifth raised detents being between the first and second raised detents; and the fourth and fifth raised detents being smaller than the first and second raised detents.

80. (Previously Presented) The apparatus of claim 72 including a fourth raised detent and a fifth raised detent; the fourth raised detent being between the first and second raised detents; the fifth raised detent being between the second and third raised detents; the first, second and third raised detents being substantially the same in size and configuration; and the fourth and fifth raised detents being smaller than the first, second and fifth raised detents.

81. (Previously Presented) The apparatus of claim 72 including a fourth raised detent and a fifth raised detent; the fourth raised detent being between the first and second raised detents; the fifth raised detent being between the second and third raised detents; the fourth and fifth raised detents being smaller than the first,

second and third raised detents; and the fourth and fifth raised detents being substantially the same in size and configuration.

82. (Previously Presented) Apparatus comprising:

a conduit section defining a conduit section lumen;

a fitting;

a rigid insert defining a central lumen, a first raised detent, a second raised detent axially spaced from the first raised detent and a third raised detent axially spaced from the first and second raised detents, the rigid insert being affixed to the fitting and extending into the conduit section lumen;

a first retainer positioned over the conduit section in substantial alignment between the first and second raised detents;

a second retainer positioned over the conduit section in substantial alignment between the second and third raised detents; and, a strap defining strap end portions, wherein the insert includes a staple; the strap passes through the staple; and one of the strap end portions engages the one of the first and second retainers.